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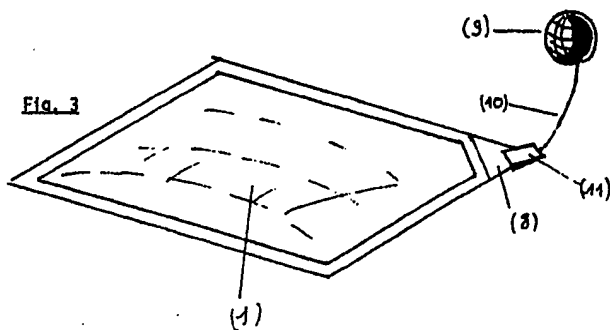
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(54) Fabric-treatment sachets with reusable handling device.

(57) The present invention provides sachets containing a fabric treatment product, which can be equipped with a reusable handling device, i.e. a handling device which can be attached to a sachet before use, and which can be removed from the spent sachet at the end of the wash cycle.



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FABRIC-TREATMENT SACHETS WITH REUSABLE HANDLING DEVICE

Technical Field

The invention relates to single-dose articles which are suitable for treating fabrics in a washing machine,
 5 and which contain a fabric-treatment composition such as a detergent composition.

Background of the invention

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Although the marketing of detergent compositions packaged in bulk is common practice, it has been found that single-dose devices containing detergent compositions offer a number of advantages in terms of convenience of use and product efficiency.

In particular, these devices improve dosage control and considerably reduce loss of detergent
 15 composition caused by retention in the dispensers of washing machines.

Several kinds of single-dose detergent products have already been described in the art; a common property of these devices is their ability to discharge the detergent composition they contain during the wash cycle : bags which are made of water-soluble material have been disclosed, as well as bags made of water-insoluble material fitted with a water soluble seal, as in GB 1.483.082, or a mechanically-weak seal, as
 20 in EP-B-0 040 931. Sachets equipped with a rigid stud are disclosed in EP-A-249439.

However, such sachet-type products are not fully satisfactory in terms of their handling, both before and after the wash; in most cases, a certain number of sachets are packed together in boxes and it may be difficult to take a single sachet out of a box; further, because of a rather unpleasant feel, it is desirable to avoid holding the sachets in the hand.

25 After the wash cycle, the empty sachets are flat or in the form of sheets, so that they offer even less grip than in the initial form; moreover, the sachets are wet and often stick to the drum of the washing machine, which makes them uneasy to locate and grip.

The present invention provides single-dose fabric treatment products, in the form of sachets, which are easy to manipulate both before and after the wash cycle.

30 The present invention provides sachets containing a fabric-treatment product, which can be equipped with a reusable handling device.

Detailed description of the invention

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The essential characteristic of the sachets of the present invention is that they can be equipped with a handling device releasably attached to the sachet, thus making this handling device reusable.

In practical terms, this means that the same handling device can be used for several washings, said
 40 device being attached to a single dose-sachet before use, and removed from the spent sachet at the end of the wash cycle; the handling device can thus be reused, i.e. re-attached to another single-dose sachet, for subsequent washings

In one embodiment of the present invention, are encompassed sachets of flexible sheet material containing a fabric-treatment composition, which have the reusable handling device releasably attached to
 45 them. This embodiment in fact encompasses the sachet configuration, when they are about to be put into the washing machine.

In another embodiment of the present invention, are encompassed sachets of flexible sheet material containing a fabric-treatment composition, which contain means for releasably attaching a handling device.

This embodiment in fact encompasses sachets as they are before the reusable handling device
 50 attached to them, i.e. is before use.

Such means for releasably attaching a handling device preferably comprises at least one orifice made on an integral fin extending outwardly from one of the edges, corners, or surfaces of the sachets; advantageously, said orifices are equipped with reinforcing means; which can consist of a frame made of a material stronger than the sheet material, i.e. metal or plastic.

It must be pointed out that sachets according to the present invention do not require to be equipped

with such means for releasably attaching a handling device; as it will be described below, the handling devices themselves may be of such a nature so as to be fastened to and removed from the sachet, without the need for any cooperative means on the sachet itself.

In a further embodiment of the invention, a package is contemplated, which includes at least one sachet of flexible sheet material containing a fabric-treatment composition, as well at least one reusable handling device.

Such a package can advantageously consist in a box made of resistant material such as cardboard, containing several sachets arranged in a vertical or horizontal position; said sachets being accessible by means of a lid, or a tear-away part of the box.

Such a package with several sachets preferably contains a minimal number of reusable handling devices, and more preferably a single one. The reusable handling devices can be kept separated from the sachets in the package, or can be already attached in a releasable manner, to one or more sachets of the package.

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The handling device

The handling devices according to the present invention must be of such a geometrical shape so as to allow it to be gripped easily :

In a preferred embodiment of the present invention, the handling device consists of a rigid or semi-rigid component of such a geometrical shape so as to allow it to be gripped easily, and of means to directly attach said component to the sachet, preferably, such a component is hollow, and is made by molding; a ring-shape is preferred; alternatively, such a component can be made of a strip of rigid or semi-rigid material such as polyethylene or polypropylene formed into a loop.

The handling device may also consist of a rigid or semi-rigid component and means to indirectly attach said component to the sachet; preferably, such a means includes a thread made of flexible or rigid material, and the rigid or semi-rigid component is of a shape such as to be held easily in the hand; for instance a spherical shape is appropriate.

In all above executions, the handling device must contain means for a releasable fastening to the sachet. When the handling device consists of a component directly attached to the sachet, the means for releasable fastening to the sachets will preferably be an integrated part of the component. Most preferably, the handling device consists of a ring-shaped molded component wherein the extremities of the ring are formed as a clip-on device.

When the handling device consists of a component not directly attached to the sachet, the means to indirectly attach said component to the sachet, such as a thread made of flexible or rigid material, contains at its extremity a clip-on device.

The clip-on device herein will vary depending on whether or not the sachet itself is equipped with cooperative means for releasably attaching said devices

When the sachets are equipped with, for example, an orifice, the clip-on device typically contains a pin, integral with one part of the handling device, which is passed through the orifice, and is releasably fastened, at its extremity, to another part of the handling device.

When the sachets are not equipped with, cooperative means, the clip-on device can be selected from of the well-known forms of clamp/clippers devices which pinch the material of the sachet between two jaw-like parts, which parts can be re-opened to unfasten the handling device.

The handling device may be fastened on any of the sealed edges or corners of the sachet. In a particular embodiment, the handling device is attached to an integral fin extending outward from one of the edges of the sachet or to an integral fin extending outward from one surface of the sachet, or an integral fin forming a corner of the sachet. As described hereinabove, said fins may contain cooperative means, such as orifices, to releasably fasten the handling device.

The sachets

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The sachets of the present invention are preferably rectangular, and formed either from two rectangular sheets of flexible material bonded together at their four edges, or from a single sheet of flexible material folded over and with the remaining three edges bonded together.

The present sachets can be non-opening, in which case the sheet material is such as to allow water to pass through and dissolve the detergent composition, which is then released.

However, it is preferred, in the context of the present invention, that said sachets contain at least one opening side, i.e. a side which, while being closed by closing means before use of the sachet, opens up when in use in a washing machine, and allows dispensing of the fabric-treatment composition contained in it.

Most preferred in the present context, are sachets which are formed of a single sheet of flexible material folded over, and with the three remaining edges being opening sides, such as defined above. After the wash cycle, such sachets are in the form of a sheet.

The closing means of the opening sides contain preferably water-soluble seals, although mechanically-weak seals or combinations of water-soluble and mechanically-weak seals can be used.

Suitable water-soluble adhesives can, for example, be based on polysaccharides such as starch or dextrin, polyethylene oxide, synthetic polymers such as polyvinyl alcohol, or alkali metal silicates. Small amounts of plasticisers, for example ethylene glycol, can be added to the water-soluble adhesives, if desired.

The flexible sheet materials which are used to form the sachets herein, can be made of paper, of woven, knitted or non-woven fabrics, or of plastic film material.

The materials should be water-insoluble and can be either water-permeable or water-impermeable.

The materials used to form the sachets are required to have a high wet strength, so as not to disintegrate during the washing process. The preferred sheet material for forming the bags is paper or thin non-woven fabric made out of synthetic fibres; synthetic fibres include fibres made out the following materials : Polyethylene, polypropylene, polyester, polyamide, polyacrylate, cellulose acetate, polyacrylonitrile, and any mixture thereof.

Alternatively, cellulosic materials can be used to make the non-woven fabrics herein, alone or in admixture with either synthetic or natural fibres. If natural fibres are used, it is desirable to include a proportion of long fibers such as manilla hemp, in order to improve the strength of the sheet material, and polymeric coating is also desirable for increasing wet strength.

It may be desirable to form the sachets of sheet material made from oxidation-resistant fibres, or to treat the sheet material before or after forming the sachet with a coating to improve oxidation resistance.

If water-insoluble, water-impermeable thermoplastic materials are used, including perforated materials such materials may advantageously be selected from polyolefins such as polyethylene, polypropylene, polystyrene; polyesters especially polyethylene terephthalate; vinyl polymers such as insoluble polyvinyl acetate and polyvinyl acrylate, polyvinyl chloride, and polyvinylidene chloride; polyamides and polyacrylonitrile; and other thermoplastic sheet materials having similar physical properties.

The fabric-treatment compositions which are contained in the sachets of the present invention are in particulate form, and are usually detergent compositions, i.e., a composition containing at least a surfactant and a builder is suitable for use in the present context; as an alternative, the sachets of the present invention can contain any particulate ingredient which is active during the wash and rinse cycles : bleaches, bleach activators, fabric softeners, perfumes, whitening or brightening agents, stain removal agents, enzymes and the like. It can be appropriate to keep certain of these ingredients separate during storage, and therefore executions of the present invention can be conceived, wherein the present sachets contain at least two separate compartments.

A typical particulate detergent product such as contained in the present sachets has the following composition :

Ingredients	Percent by weight
Anionic surfactant	8.0%
Nonionic surfactant	5.0%
Sodium tripolyphosphate	24.5%
Sodium perborate monohydrate	14.0%
Bleach activator	4.0%
Enzyme	0.8%
Sodium silicate	8.0%
Sodium carborate	11.0%
Minors and water	balance to 100

Description of the figures

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In Figure 1 is represented in perspective a sachet (1) according to the invention, with sealed edges (1a), a fin (2) extending outwardly from one of the edges of the sachet and an orifice (3) made in the fin.

Also represented is a handling device (4), consisting of a ring-shaped molded component having integrated a clip-on device (5).

In Figure 1b is a cross-sectional view of the sachet (1) along lines A-A of Fig 1a, with the handling device (4) releasably fastened onto the sachet.

In Figure 2 is represented a cross-sectional view of a sachet (1). Said sachet having releasably fastened onto a sealed edge (1a), a handling device made of a semi-rigid strip of material formed into a loop (6), and of a clipper part (7) which pinches the sealed edge (1a) of the sachet.

In Figure 3 is represented in perspective a sachet (1) with a fin (8) forming one corner of the sachet, said sachet having releasably fastened onto it, a handling device consisting of a spherical molded component (9) a flexible thread component (10) and a clipper part (11) which pinches the corner (2) of the sachet.

Typical dimensions for the present sachets are 110 to 130 mm for the largest side, and 90 to 110 mm for the other side.

The reusable handling devices with circular shape, such as shown in Fig. 1a, 1b and 2, have a diameter of about 15 to 20 mm.

In Fig. 3, the spherical component (9) typically has a radius in the range of from 7 to 15 mm, whereas the thread (10) has a length in the range of from 20 to 60 mm.

Claims

1. A sachet of flexible sheet material with a fabric-treatment composition enclosed in it, for use as a single-dose fabric-treatment article in a washing machine, characterized in, that a reusable handling device is releasably attached to the sachet.

2. A sachet in accordance with claim 1 wherein the handling device consists of a rigid or semi-rigid component of such a shape so as to allow it to be gripped easily, and of means to directly attach said component to the sachet.

3. A sachet in accordance with claim 2 wherein said handling device consists of a ring-shaped molded component wherein the extremities of the ring are formed as a clip-on device.

4. A sachet in accordance with claim 1 wherein the handling device consists of a rigid or semi-rigid component to the sachet

5. A sachet in accordance with claim 1-4 wherein the handling device is attached to one edge of the sachet.

6. A sachet in accordance with claim 5, wherein the handling device is attached to an integral fin extending outwardly from one of the edges of the sachet

7. A sachet in accordance with claim 6 wherein the handling device is attached to an integral fin extending outwardly from one of the surfaces of the sachet.

8. A sachet of flexible sheet material with a fabric-treatment composition enclosed in it, for use as a single-dose fabric-treatment article in a washing machine, characterized in, that the sachet contains means for releasably attaching a handling device.

9. A sachet in accordance with claim 9, wherein the means for releasably attaching a handling device comprise at least one orifice made on an integral fin extending outwardly from one of the edges, surfaces or corners of the sachet.

10. A sachet in accordance with claim 10 and 11 wherein the orifice is equipped with reinforcing means.

11. A sachet in accordance with claim 11 wherein the reinforcing means consist of a frame made of a material stronger than the sheet material.

12. A package for single-dose fabric-treatment articles to be used in a washing machine, characterized in, that said package includes at least one sachet of flexible sheet material containing a fabric-treatment composition, as well as at least one reusable handling device.

13. A package according to claim 13 wherein the handling device consists of a rigid or semi-rigid

component of such a geometrical shape so as to allow into be gripped easily, and of means to directly attach said component to the sachet.

14. A package according to claim 12 wherein the handling device consists of a rigid or semi-rigid component, and a means to indirectly attach said component to the sachet.

5 15. A package according to claim 12 which contains several sachets of flexible sheet material and one reusable handling device, and wherein the reusable device is releasably attached to one of the sachets.

16. A package according to claims 12 - 15 wherein the sachets of flexible sheet material contain means for releasably attaching the handling device.

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Fig. 1A

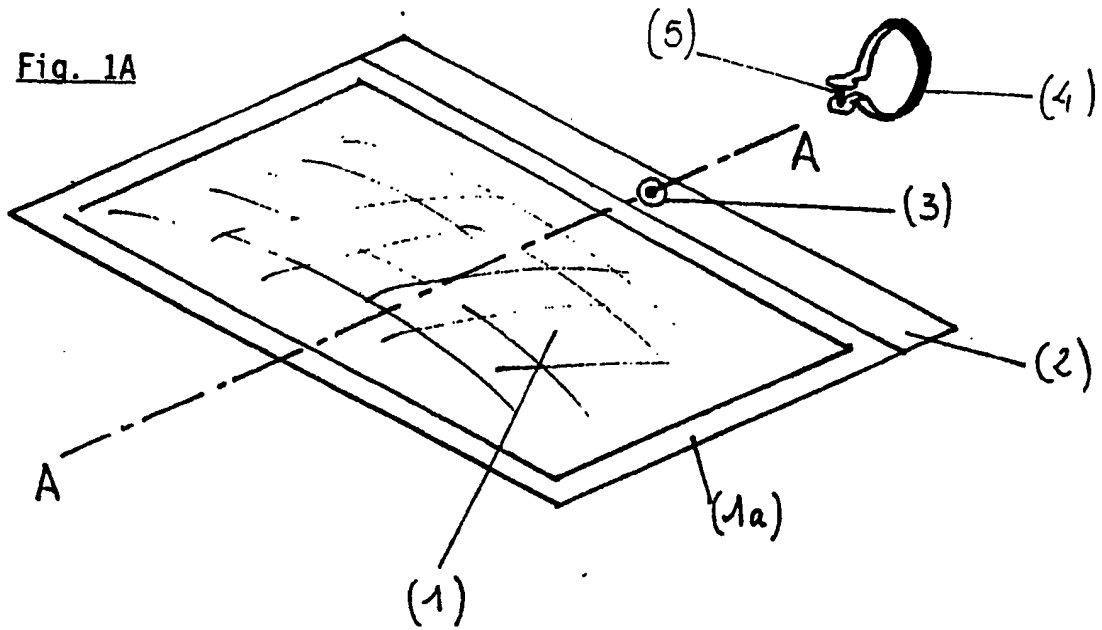


Fig. 1B

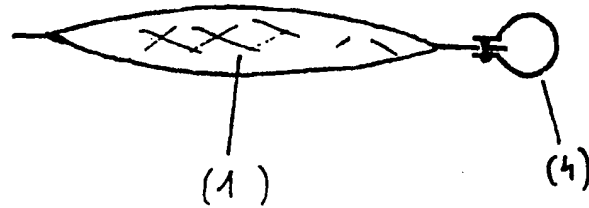


Fig. 2

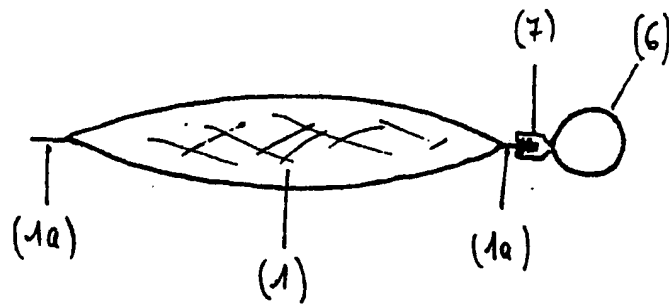
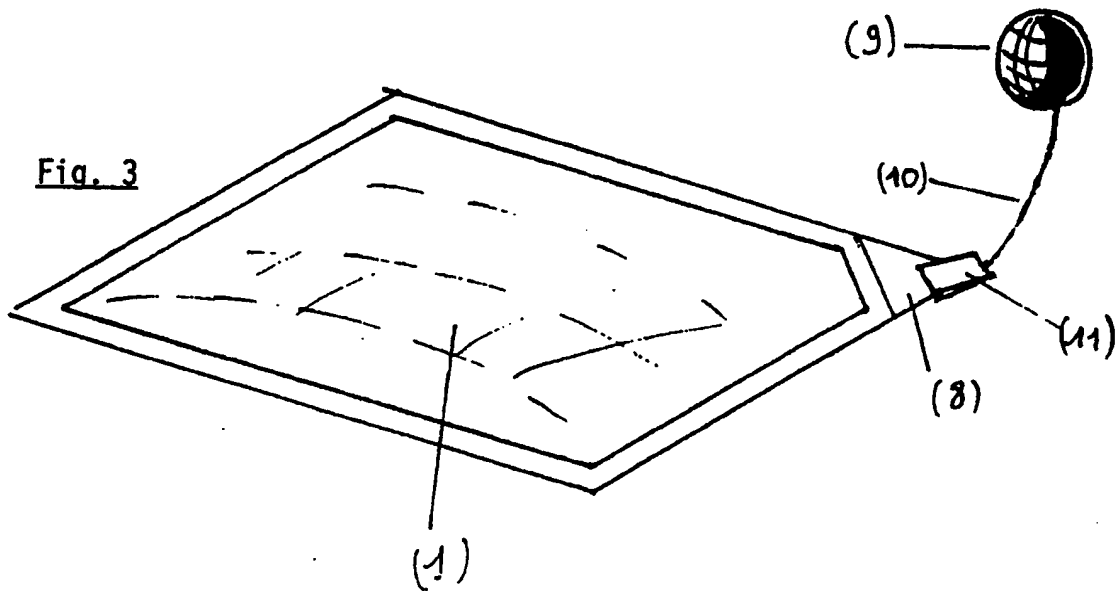


Fig. 3





DOCUMENTS CONSIDERED TO BE RELEVANT			EP 90200994.3
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl. 7)
X	<u>AT - B - 347 398</u> (ECONOMICS LAB.) * Page 3, line 50 - page 4, line 4; fig. 3 *	1, 8, 16	D 06 F 39/02 C 11 D 17/04
A	<u>DE - A1 - 2 622 707</u> (HENKEL) * Totality *	1	
A	<u>DE - A1 - 2 820 966</u> (UNILEVER) * Fig. 1, 2 *	1	
D, A	<u>EP - A - 0 249 439</u> (UNILEVER) * Totality *	1	
D, A	<u>EP - B1 - 0 040 931</u> (UNILEVER) * Claims *	1	
			TECHNICAL FIELDS SEARCHED (Int. Cl. 7)
			D 06 F 39/00 D 06 F 58/00 C 11 D 17/00 D 06 M 11/00 D 06 M 13/00
The present search report has been drawn up for all claims			
Place of search VIENNA		Date of completion of the search 01-08-1990	Examiner HUBER
CATEGORY OF CITED DOCUMENTS			
X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document		T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document	